

NATIONAL BOARD OF MEDICAL EXAMINERS,

Defendant.

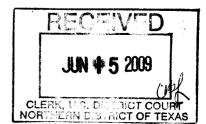
# ORIGINAL COMPLAINT FOR INJUNCTIVE RELIEF AND DEMAND FOR JURY TRIAL

## To the Honorable United States District Court Judge:

Plaintiff, Patrick C. Shepherd (Shepherd), by the undersigned counsel, files his Original Complaint for Injunctive Relief and Demand for Jury Trial against Defendant, the National Board of Medical Examiners ("NBME") and respectfully states the following:

#### NATURE OF THE ACTION

1. This is an action for a preliminary and permanent injunctive relief, and for, attorneys' fees and costs incurred in bringing this action based on Defendant's refusal to provide reasonable accommodations to Shepherd pursuant to the Americans with Disabilities Act ("ADA"), 42 U.S.C. §12101, et seq. Shepherd is a student at Texas Tech University Health Sciences Center (the "Medical School") in Lubbock, Texas, and applied for accommodations on the U.S. Medical Licensing Examination ("USMLE") Step 1 in January of 2008. Defendant denied this request and the subsequent appeals. The NBME has illegally refused and is illegally refusing to accommodate Shepherd's reading disability by refusing to provide Shepherd additional time to take the USMLE Step 1. Shepherd seeks a preliminary and permanent



injunction prohibiting the NBME from continuing its violation of Plaintiff's ADA rights and compelling the NBME to allow Shepherd to take the examination with appropriate accommodations. NBME's actions are in violation of the ADA, including 42 U.S.C. § 12189.

#### **PARTIES**

- 2. Shepherd is a medical student at the Medical School and is now domiciled in Lubbock, Lubbock County, Texas. Shepherd, who has been diagnosed with a reading disability, intended to take the USMLE Step 1 in 2008 in Texas at a qualified Testing Center. Shepherd's reading disability impairs his reading speed and comprehension ability to the point that his competence level is below that expected in comparison to most people and is a disability within the meaning of the ADA. 42 USC §12102(2).
- 3. Defendant, NBME, is a District of Columbia non-profit organization headquartered in Philadelphia, Pennsylvania. NBME administers the USMLE, the successful completion of which is required for medical licensure in the United States. Defendant has previously administered and will administer the USMLE Step 1 within the boundaries of this judicial district openly through 2009.
- 4. NBME engages in business in Texas and this judicial district and this action arises from those business activities. NBME, however, does not maintain a regular place of business in this state or this judicial district and does not have a designated agent for services of process in this state. NBME's principal place of business is 3750 Market St., Philadelphia, Pennsylvania 19104 and its registered agent in its state of incorporation is CT Corporation System 1025 Vermont Ave., N.W., Washington, D.C. 20005.

#### JURISDICTION AND VENUE

- 5. This action arises under the laws of the United States, specifically the ADA, and accordingly, this Court has subject matter jurisdiction pursuant to 28 U.S.C. §1331. This Court also has jurisdiction pursuant to 42 U.S.C. §12188(a)(1), which incorporates the provisions of 42 U.S.C. § 2000a-3(a), providing for civil actions in this Court by any person who is being subjected to discrimination on the basis of disability in violation of Title III of the ADA.
- 6. This Court has jurisdiction over the parties pursuant to residency. Shepherd is a resident of Texas. The NBME is an organization licensed to do business in Texas, and performing activities within the judicial district.
- 7. Venue is proper in this Court pursuant to 28 U.S.C. §1391, as the Defendant is doing business in this judicial district by virtue of administering the USMLE Step 1 within this district's borders, and the unlawful acts undertaken and resulting injuries occurred in this judicial district.

#### **FACTUAL ALLEGATIONS**

- 8. Shepherd is a medical student at the Texas Tech University Health Sciences Center in Lubbock, Texas. To be licensed to practice medicine in the United States, Shepherd is required to take the USMLE Step 1. He applied for and was given a scheduling permit to take the exam between June, 2008 and August, 2008. As a result of the NBME's failure to grant Shepherd's applications for accommodations and his appeal, his eligibility period was extended to November, 2008. Because of the continued failure to grant accommodations, Shepherd cancelled that permit and has obtained a new one for April through June, 2009.
- 9. Since 2002, Shepherd has undergone several evaluations including a neuropsychological exam by Dr. Stephen Holliday in 2003, a neuropsychological exam by Dr. Robin Hilsabeck in 2007, an Auditory Processing Evaluation by Tori Gustafson in 2008, an Original Complaint and Demand for Jury Trial

Adult Speech, Language, and Hearing Assessment by Dr. Melinda Corwin in 2008, and the Nelson-Denny Reading Test by Dr. David Egerton in 2009. These examinations document Shepherd's reading disability. This inability to process the written language substantially limits Shepherd's reading and learning abilities as compared to most people.

- 10. Medical Students are required to take and pass the USMLE Step 1 examination.
- 11. The NBME develops and administers the USMLE Step 1 at various test sites and on various dates throughout the United States. The results of each student's scores are reported to that student's medical school.
- 12. NBME continued refusal to grant Shepherd the accommodations mandated by the ADA preclude him from sitting for the exam.

## COUNT I — VIOLATION OF THE ADA; REQUEST FOR INJUNCTIVE RELIEF

- 13. Shepherd incorporates by reference Paragraphs 1 through 12 as though fully set forth herein.
- 14. Shepherd is an individual with a disability as defined by the ADA because he has a mental impairment that substantially limits one or more of his major life functions, namely, reading and learning disabilities that substantially limit his major life functions of learning, reading, and writing. 42 U.S.C. §12102(2)(A).
- 15. Title III of the ADA (46. U.S.C. § 12189) prohibits discrimination against persons with disabilities in professional examinations such as the USMLE Step 1 as follows:

Any person that offers examinations or courses related to applications, licensing, certification, or credentialing for secondary or post-secondary education, professional, or trade purposes shall offer such examinations or courses in a place and manner accessible to persons with disabilities or offer alternative accessible arrangements for such individuals.

- 16. The NBME is covered by the ADA pursuant to 42 U.S.C. §12189 in its capacity as the administrator of the USMLE Step 1.
  - Pursuant to 28 C.F.R. § 36.309(b), the NBME must assure that any examination is selected and administered so as to best insure that, when the examination is administered to an individual with a disability that impairs sensory, manual or speaking skills, the examination results accurately reflect the individual's aptitude or achievement level or whatever other factors the examination purports to measure, other than reflecting the individual's impaired sensory, manual, or speaking skills.

One reasonable accommodation for a disabled person, such as Shepherd, that may be allowed under the ADA is lengthening the time permitted for completing the examination.

- 18. Shepherd has learning and reading disabilities that substantially limit his major life activities of learning, reading and writing. Shepherd's condition which has been diagnosed through testing, examination and evaluation by experts in this field constitutes a disability within the meaning of the ADA.
- 19. Under the ADA, a disability is defined, in part, as a physical or mental impairment that substantially limits one or more major life activities of an individual. 42 U.S.C. § 12102(2). Under the authority of 42 U.S.C. § 12134, the Department of Justice has promulgated regulations (28 CFR § 35.104) that include "learning" and "work" within the definition of major life activities. The major life activity of learning also includes "reading" and "writing" as activities protected by the ADA. The "substantially limited" standard for the major life activity of learning, reading or writing, is established when "the individual's important life activities are restricted as to the condition, manner, or duration under which they can be performed in comparison to most people." 28 CFR, pt. 36, App. B.

17.

- 20. As noted above, Shepherd has reading and learning disabilities that substantially impair his ability to read and process the written word. His disability precludes him from learning, reading and writing in the same manner and in the same amount of time as most people. These cognitive challenges substantially limit his activities of learning, reading, and writing, in comparison to most people and certainly in comparison to his peers, other medical students taking the USMLE.
- 21. Failure in the taking of the USMLE, necessarily precludes an individual from employment as a medical doctor in the United States. Successful passing of the USMLE is a prerequisite to licensure to practice medicine in the United States, and the level of performance in the taking of the USMLE is a primary determinant of a candidate's job opportunities for residency. Thus, Shepherd's entire future livelihood as a medical doctor rests on this exam.
- 22. Shepherd made formal written request of Defendant for reasonable accommodation for his disability in connection with taking the USMLE Step 1, i.e., double time to take the exam or in the alternative time and a half, extra breaks, a non-Scantron exam and a quiet, private room, in which to take the exam. Such accommodations are consistent with reasonable accommodations the NBME has granted to other candidates in the past taking the exam.
- 23. The NBME's refusal to provide the reasonable test accommodations Shepherd requested for the USMLE Step 1 constitutes an illegal failure to accommodate a disabled person in violation of the ADA.
- 24. Shepherd will be irreparably harmed if the NBME continues its illegal refusal to provide him the reasonable test accommodation as requested and unless this Court grants preliminary injunctive relief prohibiting the continued violation of Shepherd's ADA rights and

compelling the NBME to provide the requested accommodation, in that (a) Shepherd's medical career will be placed on hold because a passing score on the USMLE Step 1 is a prerequisite to taking Steps 2 & 3 and becoming a licensed physician; (b) given his history with prior examinations, Shepherd is justifiably concerned that he will not pass the USMLE Step 1 without the reasonable accommodation to which he is entitled under the ADA; (c) Shepherd's opportunity to engage in his career of choice is effectively on hold until the NBME is compelled to comply with the ADA; (d) requiring Shepherd to take the USMLE Step 1 without accommodation, puts him at distinct disadvantage given his disability; (f) reduced performance on the USMLE Step 1 as a result of not receiving accommodation significantly reduces Shepherd's future professional career options; and (g) Shepherd faces a future medical career end if he cannot successfully pass the Step 1 exam.

- 25. The NBME will not be harmed if the Court grants the requested injunctive relief.

  Thus, the balancing of harm favors granting the requested injunctive relief.
- 26. The public interest will be served by granting the requested injunctive relief. The ADA was enacted as a matter of public policy to ensure that disabled persons are treated fairly and provided with equal opportunities to those persons in the community without disabilities. The public interest will not be served by allowing the NBME to continue its unlawful refusal to provide Shepherd with the ADA accommodations to which he is justly entitled.
- 27. As a result of the NBME's violation of the ADA, Shepherd has suffered or will suffer great injury, including, but not limited to, lost employment opportunities, out-of-pocket pecuniary losses, and severe emotional distress and anguish.

- 28. The NBME, in denying Shepherd's request for reasonable accommodation violated the ADA and has done so while acting maliciously or with reckless indifference for Shepherd's ADA rights.
- 29. Accordingly, under the ADA, Shepherd is entitled to and hereby requests entry of a preliminary injunction directing the NBME immediately to cease and desist from its refusal to accommodate Shepherd's requests for accommodation on the USMLE Step 1 and ordering that the NBME immediately comply with the ADA by allowing Shepherd the requested accommodations of double the standard time, extra breaks, a non-Scantron exam and a quiet, private room in which to take the USMLE Step 1.
- 30. Further, Shepherd is entitled to and hereby requests that the Court enter a permanent injunction directing that the NBME immediately to cease and desist its refusal to accommodate Shepherd's request for an accommodation on the USMLE Step 1 and any future USMLE Step examinations to be taken by Shepherd and that the NBME comply with the ADA by providing Shepherd's requested accommodation with regard to the USMLE Step 1 and future USMLE examinations for which Shepherd is otherwise entitled to sit and for which he otherwise makes proper application.

# **COUNT II - REQUEST FOR ATTORNEY'S FEES**

- 31. Shepherd incorporates by reference Paragraphs 1 through 30 as fully set forth herein.
- 32. 42 U.S.C. § 12188(a)(1), incorporates into Title III of the ADA the remedies and procedures set forth in 42 U.S.C. § 2000a-3(a) including the right to recovery of reasonable attorney's fees, and costs and expenses incurred in bringing this claim under the ADA. Shepherd

is entitled to recovery and, hereby, does request recovery of all reasonable attorney's fees, costs, and expenses incurred in the bringing and prosecution of this action.

#### **JURY DEMAND**

33. Shepherd hereby demands a trial by jury for all issues in this case that may be triable by a jury of his peers.

WHEREFORE, PREMISES CONSIDERED, Shepherd requests that this Court grant judgment in his favor and against the Defendant as follows:

- 1. enter a preliminary injunction directing that the NBME immediately cease and desist from its refusal to accommodate Shepherd's request for reasonable accommodations on the USMLE Step 1 examination and ordering that the NBME immediately comply with the ADA by allowing Shepherd the requested accommodations of double the standard time, extra breaks, a non-Scantron exam and a quiet, private room in which to take the USMLE Step 1;
- 2. order Defendant to appear on the date and time affixed by this Court to show cause, if any there be, why a preliminary injunction as prayed for above, should not be issued;
- 3. enter judgment in the form of a permanent injunctive order against Defendant directing NBME to immediately cease and desist from its refusal to accommodate Shepherd's request for accommodation on the USMLE Step 1 examination and any future USMLE Step examinations for which Shepherd is otherwise entitled to sit and for which he has made proper application and ordering NBME to comply with the ADA by allowing Shepherd the requested accommodations of double the standard time, extra breaks, a non-Scantron exam and a quiet, private room in which to take the USMLE Step examinations;
- 4. enter judgment against the Defendant awarding such compensatory damages as may be proven by Shepherd and to which he is entitled;

- 5. enter judgment against the Defendant awarding Shepherd recovery of his reasonable attorney's fees, costs and expenses incurred in bringing and prosecuting this litigation; and
- 6. awarding such other and further relief as may be appropriate, in law or in equity, to which Shepherd may otherwise by entitled.

Respectfully submitted,

Vincent E. Nowak, SBOT# 15121550 MULLIN HOARD & BROWN, LLP 500 S. Taylor, Suite 800 P. O. Box 31656 Amarillo, Texas 79120-1656 806.372.5050 806.372.5086 (Fax)

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Attorneys for Plaintiff

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# VERIFICATION

COUNTY OF LABORAL

BEFORE ME, the undersigned notary public, on this day personally appeared Patrick C. Shepherd, who, after being duly sworn, stated under oath that he is the plaintiff in this action, that he has read Plaintiff's Original Complaint for Emergency Injunction Relief and Demand for Jury Trial, and that every factual statement contained in the complaint regarding his personal history is to his knowledge true and correct.

Patrick C. Shepherd

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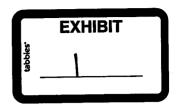
SUBSCRIBED AND SWORN to before me on this the 4th day of June 2009.

EDWARD ONTIBEROZ JR
My Commission Expires
August 17, 2011

Notary Public, State of

## AFFIDAVIT OF MELINDA CORWIN, PH.D., CCC-SLP

STATE OF TEX	XAS	
COUNTY OF	Lubhotk	<u> </u>



My name is Melinda Corwin, Ph.D., CCC-SLP. I am over the age of 18 and otherwise competent to make this affidavit. The facts stated within this affidavit are within my personal knowledge and such facts are true and correct, unless otherwise indicated.

I conducted an Adult Speech, Language, and Hearing Assessment on Patrick C. Shepherd in September of 2008.

According to available records and consistent with the history reported to me, Mr. Shepherd started experiencing problems, including stuttering at age 4 when his mother remarried and he was beaten daily with a belt by his stepfather. He has been given the accommodation of extra time on examinations since approximately the fifth grade. When given the extra time, Mr. Shepherd's grades were high. However on tests where no such accommodation was made, such as the Scholastic Aptitude Test, his scores were low because he was unable to finish the examination. Mr. Shepherd has been previously diagnosed with a reading disorder, stuttering, and ADHD.

During my consultation with Mr. Shepherd, the following were administered:

Clinical Interview

Hearing Screening

Oral and Written Language Scales (OWLS)

Gray Oral Reading Test 4th Edition (GORT-4)

Gray Silent Reading Test (GSRT)

United States Medical Licensing Examination (USMLE) Step 1 Sample Questions

Test of Auditory Processing Skills 3rd Edition (TAPS-3)

Behavioral Assessment of the Dysexecutive Syndrome (BADS)

Given the results of the foregoing procedures, I have concluded that Mr. Shepherd demonstrates cognitive-linguistic deficits in the areas of memory, processing, and executive functioning. He has dysexecutive function and poor auditory processing abilities, including poor working memory. This conclusion is a direct consequence of his reading disorder and test performance.

As a result of his disabilities, Mr. Shepherd cannot pass the USMLE Step 1 exam without the accommodation of extra time.

Mr. Shepherd has an impairment that substantially limits his major life activities of learning, reading, concentrating, and thinking.

The mitigating measures Mr. Shepherd employs to compensate for his impairment primarily consist of reasonable accommodations of additional time when learning, reading, concentrating, and thinking are impacted by time.

Attached to this affidavit is my Adult Speech, Language, and Hearing Assessment of Mr. Shepherd. This form was completed by a person with knowledge of the event. It was made near the time the evaluation was completed. It is in the regular course of my business to make such a record. It is in the regular course of my business to keep such a record.

Affiant further sayeth not.

Melinda Corwin, Ph.D., CCC-SLP

SUBSCRIBED AND SWORN TO BEFORE ME on this \_\_\_\_\_\_ day of May, 2009, to certify which witness my hand and official seal.

SUZANNE FOUST
Notary Public, State of Texas
My Commission Expires 09-25-2012
NOTARY WITHOUT BOND

NOTARY PUBLIC IN AND FOR THE STATE OF TEXAS

My commission expires: 9-25-12

# TEXAS TECH UNIVERSITY HEALTH SCIENCES CENTER SPEECH-LANGUAGE AND HEARING CLINIC STOP 6073, 3601 4th Street Lubbock, Texas 79430-6073 (806) 743-5678

## Adult Speech, Language, and Hearing Assessment

Name: Patrick Shepherd

Dates of Assessment: 9/12, 9/16, 9/23, 9/24, and 9/30/08

SSN: 128-62-9724

Informant for History: Self

Address: 6013 63rd Street

Clinician: Amy Ritchey, B.S.

Telephone: (806) 687-1669 Birthdate: 12/15/1975

Supervisor: Melinda Corwin, Ph.D., CCC-SLP

Complaint and Referral

Mr. Shepherd, a 32-year-old male, was referred to the Texas Tech University Health Sciences Center (TTUHSC) Speech, Language, and Hearing Clinic for a language evaluation by Karen Nelson, Academic Support Manager in the TTUHSC School of Medicine Office of Student Affairs. Mr. Shepherd expressed concern regarding his silent reading abilities and stated that he has a reading/information processing speed impairment that hinders him from reading and writing at a normal rate.

## Case History

## Birth and Pregnancy History

Pregnancy and birth history were medically unremarkable.

**Developmental History and Prior Therapy** 

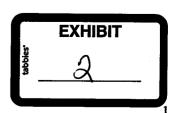
Mr. Shepherd reported that he met all developmental milestones ahead of the expected time frames and that his language was age appropriate until age 4 when he began to stutter. He received over 20 years of speech therapy for his stuttering.

#### **Educational History**

Mr. Shepherd did not repeat any grades in school, and he was given extended time on tests in elementary, junior high, and high school as well as during most of his undergraduate coursework, the Medical College Admission Test (MCAT), and his first 2 years of medical school.

Family History

Mr. Shepherd's family history is positive for learning problems in all three of his half-brothers. His youngest half-brother has Down syndrome, his middle half-brother has attention-deficit hyperactivity disorder (ADHD) and Asperger's disorder, and his oldest half-brother requires extra time to read and finish examinations. Additionally, his mother believes that she has ADHD.



## Speech Evaluation and Observations

## **Oral Peripheral Examination**

An oral peripheral examination was completed, and all observable structures were within functional limits.

## Informal Observations of Speech Clarity and Fluency

Mr. Shepherd's spontaneous speech was approximately 100% intelligible throughout the evaluation. Rate, prosody, and voice quality appeared to be within functional limits. His speech was somewhat dysfluent, and episodes of stuttering occurred approximately 10-15% of the time. Mr. Shepherd used silent and audible clonic repetitions but did not exhibit any secondary characteristics of stuttering. Overall, his stuttering was mild and did not significantly interfere with his ability to convey information orally.

## Hearing

Mr. Shepherd's hearing was screened at 20 dB HL for the following frequencies: 500, 1000, 2000, and 4000 Hz. The screening indicated peripheral hearing within normal limits bilaterally.

#### Language Evaluation and Observations:

## Oral and Written Language Scales (OWLS)

The OWLS is comprised of three individual subtests: listening comprehension, written expression, and oral communication. This standardized test includes tasks that address not only the lexical (vocabulary) and syntactic (grammar) but also the pragmatic (function) and supralinguistic (higher-order thinking) structures of language. The OWLS was standardized on individuals between the ages of 5 and 21 years for the written scale, and 3 to 21 years for the listening comprehension and oral expression scales. Although Mr. Shepherd exceeds this standardized age range, the test can serve as a criterion-reference measure to help assess his written, receptive, and oral expressive language skills. The three subtests of the OWLS are timed and have standard scores with a mean of 100 and a standard deviation of 15. Thus, scores ranging between 85 and 115 are considered within normal limits. The confidence interval provides the range within which as person would be certain to score if this test were given again. Each subtest is discussed in the following paragraphs.

The OWLS Listening Comprehension Scale is a standardized comprehension assessment designed to measure a person's understanding of spoken language. During this subtest, the examiner reads a verbal stimulus (e.g., "Environmental pollution is a prime example of people's greed and disregard for others") and the examinee chooses a corresponding picture. The response can be given either nonverbally or verbally. A raw score is obtained which translates to a standard score. Mr. Shepherd's scores are included in Table 1. His standard score was 94, indicating that he performed within 1 standard deviation of the mean when compared to 21-year-old adults.

The OWLS Written Expression Scale is a standardized writing assessment which is designed to measure a person's use of written conventions (letter formation, spelling/incorrect words, punctuation, capitalization, and conventional structures), linguistic forms (modifiers, phrases, question forms, verb forms, sentences, and complex sentence structures), and meaningful communication (appropriate content, details, coherence, supporting ideas, word choice, and

unity). Mr. Shepherd's scores are included in Table 1. His standard score was 131, indicating that he performed 2 standard deviations above the mean compared to young adults. This subtest is untimed; however, the manual states that this subtest typically takes 10-30 minutes to complete. Mr. Shepherd required approximately 100 minutes to complete it. When he was not under time constraints, he wrote complete meaningful sentences (e.g., "The one lady among the group of women seamstresses who wore a bright yellow hat with a peacock's feather was frantically engaged in the production of an elegant, white silk wedding dress.").

The OWLS Oral Expression Scale is a standardized assessment designed to address lexical, syntactic and supralinguistic structures of oral language. The examiner reads aloud a verbal stimulus and shows a picture. The examinee responds orally by answering a question, completing a sentence, or generating one or more sentences. Mr. Shepherd's scores are included in Table 1. His standard score was 139, indicating that he performed 2 standard deviations above the mean compared to young adults. This subtest is untimed; however, the manual states that this subtest typically takes 10-25 minutes to complete. Mr. Shepherd required approximately 40 minutes to complete it. His oral responses were coherent and meaningful; however, he required 30 to 90 seconds to formulate each answer before speaking.

Table 1

	Raw Score	Standard Score	Confidence Interval (90%)
Listening Comprehension	95	94	83-105
Written Expression	65	131	119-143
Oral Expression	100	139	127-151
Oral Composite	233	118	110-124
Language Composite	364	125	118-131

The Oral Composite score is derived from the sum of the listening comprehension and oral expression standard scores and then converted into a standard score. The Language Composite score is found by adding together the standard scores from the written expression, listening comprehension, and oral expression subtests. Overall, Mr. Shepherd performed well in terms of oral and written expression, as long as he was given unlimited time to complete each subtest. His

listening comprehension standard score was 37-45 points below his oral and written expression standard scores, which indicated that Mr. Shepherd had substantially more difficulty understanding incoming information than expressing it.

# Reading and Reading Comprehension

#### **Oral Reading**

The Gray Oral Reading Test 4<sup>th</sup> Edition (GORT-4) is a norm-referenced test of oral reading rate, accuracy, fluency, and comprehension. It is comprised of 14 separate stories with 5 multiple-choice comprehension questions following each story. It is appropriate for individuals who are 7 years through 18 years 11 months of age. Although Mr. Shepherd exceeds this standardized age range, the test can serve as a criterion-reference measure to help assess his reading skills. Rate, accuracy, fluency, and comprehension results are reported as standard scores with a mean of 10 and a standard deviation of 3. The overall oral reading composite score is reported as a quotient, a type of statistical score with a mean of 100 and a standard deviation of 15. Age equivalents and grade equivalents are also provided. Mr. Shepherd's scores are included in Table 2.

Table 2

	Raw Score	Standard Score	Age Equivalent	Grade Equivalent	Oral Reading Quotient
Rate Score	62	11	>18.9	>12.7	
Accuracy Score	70	15	>18.9	>12.7	
Fluency Score	132	14	>18.9	>12.7	
Comprehension Score	62	11	>18.9	>12.7	
Oral Composite Score	NA	25	NA	NA	115

Mr. Shepherd read aloud smoothly at an average rate of 138 words per minute (wpm). A typical adult oral reading rate is between 155 and 175 wpm. He did not have significant difficulty decoding words, and he answered comprehension questions adequately in an untimed condition.

## **Silent Reading**

The Gray Silent Reading Test (GSRT) is a norm-referenced untimed test of silent reading comprehension that is appropriate for individuals who are 7 years through 25 years 11 months of age. Although Mr. Shepherd exceeds this standardized age range, the test can serve as a criterion-reference measure to help assess his silent reading skills. This standardized test is

comprised of 13 separate stories followed by 5 multiple-choice comprehension questions. Mr. Shepherd's scores are included in Table 3.

Table 3

Raw Score	Age Equivalent	Grade Equivalent	Silent Reading Quotient
62	>18.0	>12.2	121

This test was also untimed. The test manual states that the test typically takes 15-20 minutes to complete. Mr. Shepherd spent a total of 25 minutes on this test. The normative group for adults included individuals from ages 18-25 years. Mr. Shepherd's silent reading quotient was 1 standard deviation above the mean compared to individuals between the ages of 18 and 25 years, indicating that his silent reading abilities were adequate in an untimed condition.

## Objective Test-Taking

To further evaluate Mr. Shepherd's ability to read, remember, comprehend, integrate, and formulate information, brief portions from the United States Medical Licensing Examination (USMLE) Step 1 Sample Questions (provided online by the National Board of Medical Examiners (NBME) were administered in both a timed and an untimed condition. The actual exam that Mr. Shepherd will take as part of his medical school requirements will include 336 questions over 8 hours (including 1 hour of break time). During the first portion of the brief practice test consisting of 12 questions, Mr. Shepherd was not given a set amount of time to complete the examination. He spent 18 minutes completing the practice test, and he correctly answered 8 of the 12 questions, yielding a comprehension score of 66%. Mr. Shepherd was then given a different set of 12 questions and was allowed 15 minutes to complete them. On this practice test, he correctly answered 4 of the 12 questions, yielding a comprehension score of 33%. Comparatively, Mr. Shepherd performed significantly better in the untimed compared to the timed condition.

#### **Auditory Processing**

Mr. Shepherd was given the Test of Auditory Processing Skills 3<sup>rd</sup> Edition (TAPS-3). This standardized test is comprised of 10 subtest as follows: auditory figure-ground (optional), word discrimination, phonological segmentation, phonological blending, number memory forward, number memory reversed, word memory, sentence memory, auditory comprehension, and auditory reasoning. The TAPS-3 is appropriate for individuals who are 4 years through 18 years 11 months of age. Although Mr. Shepherd exceeds this standardized age range, the test can serve as a criterion-reference measure to help assess his auditory processing skills. Mr. Shepherd's scores are included in Table 4.

Table 4

5 · · · ·	Raw Score	Scaled Score	Age- Equivalent
Word Discrimination	30	8	7-6
Phonological Segmentation	34	10	>18-11
Phonological Blending	28	10	>18-11
Number Memory Forward	23	10	>18-11
Number Memory Reversed	14	9	14-9
Word Memory	23	10	>18-11
Sentence Memory	26	7	11-0
Auditory Comprehension	11	2	5-4
Auditory Reasoning	22	8	13-11

Results revealed that Mr. Shepherd performed well (better than an 18-year-old) in his ability to segment and blend words. Based on this information, he would be expected to read (decode printed text) and spell fairly well. In other words, his ability to "call out" or write words on a page is adequate. Additionally, Mr. Shepherd can recall/remember a list of 5 numbers or a list of 5 unrelated monosyllabic words adequately when these lists are presented orally (auditorily). He performed at or above the level of an 18-year-old, which would be expected for an adult in his/her daily environment.

When Mr. Shepherd was asked to remember and repeat longer strands of information, such as a sentence containing >6 parts (e.g. "Explain to the class how the flying machine designed by DaVinci would work"), he was unable to consistently and accurately do so. Mr. Shepherd also had difficulty remembering and manipulating information, such as stating a list of 5 numbers in reverse order or listening to a 2-sentence passage and then inferring or deducing an appropriate answer to a comprehension question about the passage (e.g.. "Jamie raced to Jordan's house after school and said, 'Am I glad I found you...I am really in a jam.' Before Jamie said anything else, what did Jordan know about his friend?" Mr. Shepherd's response: "Jamie liked to race"). All of

these subtest tasks involve an increased "language load" and require adequate executive functioning. Based on the subtest scores, Mr. Shepherd's performance was more like that of an adolescent rather than an adult. Compared to typical adults, his performance was not adequate for the major life activities of listening, remembering, and comprehending.

On the Auditory Reasoning subtest, Mr. Shepherd's response lag time ranged from 4-12 seconds. A typical adult would be expected to respond in 1-1.5 seconds. He also commented about his struggles during the subtests and seemed to be aware of (and perhaps surprised by) the difficulty he was having. Some of his direct quotes taken from the evaluation transcript are as follows: "Could you repeat that? I'm drifting a bit."

"I don't know the answer because I can't remember the first part of what you just said."
"It seems like you're speaking really fast. It's hard for me to remember and understand."
"Auditory is really difficult for me...I need to see it."

These comments may indicate difficulty with auditory processing, especially in the area of working memory.

Mr. Shepherd had the most difficulty on the Word Discrimination and Auditory Comprehension subtests. According to the TAPS-3 administration manual, students "top out" (i.e., raw score >31) by age 9-6 for the "most basic skill" of word discrimination. Instead, Mr. Shepherd only earned a raw score of 30. He sometimes misperceived words (e.g. "Chet" for "Chip"; "skate" for "scape") which negatively affected his comprehension. Additionally, he sometimes forgot information that was read aloud to him, which in turn made it difficult or impossible for him to correctly answer questions about the information. For example, the clinician read aloud the following: "Lee had the day off from school. His mom gave him some jobs to do. What's special about this day for Lee?" A correct answer would have been that Lee had the day off from school. Mr. Shepherd responded, "He took off school to look for a job." The clinician then asked, "What did his mom ask him to do?" Mr. Shepherd responded, "Look for a job." Mr. Shepherd's performance on these subtests was comparable to the performance of young children rather than adults.

### **Executive Functioning**

The Behavioural Assessment of the Dysexecutive Syndrome (BADS) is a test battery aimed at predicting everyday problems arising from Dysexecutive Syndrome (DES). DES closely resembles what was once called "frontal lobe syndrome." Although there is great variability in the extent and degree of impairment in patients with frontal lobe damage, certain features are highly characteristic, as follows: disturbed attention, increased distractibility, and impaired flexibility. The BADS is comprised of 6 different subtests: rule shift cards, action program, key search, temporal judgment, zoo map, and modified six elements test. The test is normed for individuals who are 16-87 years of age. Mr. Shepherd's scores are included in Table 5.

Table 5

	Raw Score	Profile Score	Standardized Score	Age Corrected Standardized Score	Overall Classification
Rule Shift Cards	5	4	NA	NA	NA
Action Program	7	4	NA	NA	NA
Key Search	1	0	NA	NA	NA
Temporal Judgment	1	1	NA	NA	NA
Zoo Map	9	1	NA	NA	NA
Modified Six Elements	5	2	NA	NA	NA
Total Profile Score	NA	12	70	65	Impaired

It should be noted that during administration of the BADS, Mr. Shepherd asked the clinician to repeat and/or clarify the directions for all 6 subtests, which are discussed in the paragraphs below.

Subtest one was Rule Shift Cards. This is a test that measures one's ability to change an established pattern of responding, using familiar materials. In part 1 a response pattern is established according to a simple rule. In part 2 the rule is changed and examinees have to adapt their responses, inhibiting their original response set. During this subtest, Mr. Shepherd was able to change his established pattern of responding and received an average score.

Action program is the second subtest, which tests practical problem solving. A cork has to be extracted from a tall tube, a result which can only be achieved by the planned use of various materials provided. Mr. Shepherd was able to extract the cork from the tube; however, points were decucted from his score because he required extended time to plan for solving the problem.

The third test is a key search test, a test of strategy formation. In an analogue of a common problem, examinees are required to demonstrate how they would search a field for a set of lost keys. Their strategy is scored according to its functionality. Initially it was difficult for Mr. Shepherd to understand the assignment, so visual examples were provided and the directions were repeated. Mr. Shepherd then proceeded to search for the lost keys; however, his strategy

was not functional because he forgot to search one whole side of the field. His score indicated a below-average ability to formulate and implement a strategy.

Temporal judgment is subtest four. This test uses four questions to assess examinees' ability to estimate how long it takes to complete tasks/events (such as a routine dental checkup). Mr. Shepherd's score indicated a below-average ability of temporal judgment.

The fifth test is the zoo map test, which is a test of planning. It provides information about examinees' ability to plan a route to visit 6 out of 12 possible locations in a zoo, firstly in a demanding, open-ended situation where little external structure is provided, and secondly in a situation that involves simply following a concrete, externally-imposed strategy. During the first version, Mr. Shepherd required several minutes to plan his route, and he did not visit the locations in the correct order. On the second version, he was able to follow the strategy and visit the correct places, but again it took him longer than expected to complete the task. His below-average score indicates a deficit in planning, especially under time constraints.

Subtest 6, modified six elements, involves the examinee being given instructions to do three tasks (dictation, arithmetic, and picture naming), each of which is divided into two parts, called A and B. Thus there are two sets of arithmetic elements, two sets of dictation elements, and two sets of picture naming elements, for a total of 6 elements. The examinee is given a total of 10 minutes and is required to attempt at least something from each of the 6 elements within the 10-minute period. An unusual aspect of this test is that it is not important how well the examinee performs individual components of the elements; the point of the test is to measure how well examinees organize themselves. Instead of allotting his time adequately so that he could attempt at least a portion of each element, Mr. Shepherd remained on one element for approximately 5.5 minutes. This task makes demands on a person's ability to plan, organize, and monitor behavior. It also requires prospective memory (i.e., the ability to remember to carry out an intention in future time).

The BADS total profile score is converted into a standardized score with a mean of 100 and a standard deviation of 15. It is then possible to classify overall performance as impaired, borderline, low average, high average, or superior. Mr. Shepherd received a total profile score of 12 out of 24 possible points. His age-corrected standard score of 65 indicates that he scored more than 2 standard deviations below the mean on the BADS compared to other 32-year-olds; therefore, his severity rating is impaired.

## Clinical Impressions

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Based on the results of this assessment, Mr. Shepherd demonstrates cognitive-linguistic deficits in the areas of memory, processing, and executive functioning. His strengths and weaknesses are described in the paragraphs below.

Mr. Shepherd has adequate understanding of spoken language and written language in untimed conditions, although his understanding is substantially poorer than his expression. His oral and written expression were meaningful and elaborate when he was allowed unlimited time to process what he was reading/hearing, formulate an answer, and convey his message orally or in writing.

Mr. Shepherd performed significantly better in untimed conditions compared to timed conditions during a practice test involving reading and reading comprehension. These findings were not surprising based on his OWLS and TAPS-3 scores. While reading provides visual information (which is beneficial to Mr. Shepherd compared to auditory-only information), reading is an auditory-based skill: One must decode the words/symbols, remember them, manipulate them, reason about them, and then formulate a response. This is all typically done auditorily and silently "inside one's head." Because of Mr. Shepherd's poor auditory memory for complex information, he must frequently refer back to the passage. He also requires additional time (compared to a neurotypical adult) to process information, reason about it, and generate a response. When given additional time, his performance improves. The BADS results also confirmed difficulties with memory, processing, planning, and organization. Mr. Shepherd's age-corrected standard score of 65 indicates that he scored more than 2 standard deviations below the mean compared to adults his age; therefore, his severity rating is impaired.

In summary, Mr. Shepherd has dysexecutive function and poor auditory processing abilities, including poor working memory, which negatively impacts his daily life. Compared to neurotypical adults, his difficulties substantially limit his ability to participate in the major life activity of communicating (i.e., listening to, remembering, comprehending, and organizing information and then planning and generating an appropriate response in a timely manner), including timely reading comprehension. Because of his high intelligence quotient (per previous psychological reports), he utilizes a myriad of compensatory strategies which allow him to be successful in many but not all of his daily life activities.

### Recommendations

Based on the results of this assessment, the following recommendations were made:

- 1. Consult a psychologist and/or physician regarding evaluation and pharmaceutical treatment for possible Attention Deficit Hyperactivity Disorder, which could be negatively affecting attention and comprehension.
- 2. Consider an auditory processing evaluation by a certified audiologist who specializes in this type of testing to further evaluate auditory processing abilities using a comprehensive test battery and provide treatment recommendations.
- 3. Consider individual language therapy with a certified speech-language pathologist to explore possible additional compensatory strategies to improve auditory memory, comprehension, planning, and reasoning (e.g., visualization + rehearsal techniques, cognitive behavior modification).

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- 4. Request extended time (at least time and a half) for examinations that contain reading passages, writing passages, and comprehension questions that require inferential reasoning.
- 5. Request pen and paper (versus computer-based) examinations when possible to provide additional visual information (i.e., a hard copy that can be marked on) during test taking.
- 6. Request periodic breaks during examinations to improve attention and focus, which in turn improves working memory and executive function.

Amy Ritchey, B.S.

Graduate Student Clinician

Melinda Corwin, Ph.D. CCC-SLP

Clinical Educator

Licensed Speech-Language Pathologist